

What is claimed is:

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1. A method for driving a display device having a display panel, the method comprising the steps of:

5 confirming whether display data applied to the display panel are uniformly maintained for a predetermined time;

dividing the display panel into at least one block when the display data are uniformly maintained for a predetermined time;

and

40 sequentially performing screen save modes that apply the display data and screen save mode data to the one block.

2. The method of claim 1, further comprising the steps of:

releasing the screen save modes when the display data are changed during the screen save modes; and

55 displaying the display data only on the display panel.

3. The method of claim 1, further comprising the step of displaying the display data on the display panel without 20 performing the screen save modes when the display data are changed without being uniformly maintained for a predetermined time.

4. The method of claim 1, wherein the block for the screen save modes is any one of a column block consisting of at least one pixel column, a row block consisting of at least one pixel row, and a pixel block consisting of  $N_1 \times M_1$  ( $N_1$  and  $M_1$  are 5 positive integers) pixels.

5. The method of claim 1, wherein the screen save mode data are inverse data of the display data.

6. The method of claim 1, wherein the screen save mode data are to turn on or off whole pixels within each pixel block.

7. A method for driving a display device having a display panel, the method comprising the steps of:

confirming whether display data applied to the display panel are uniformly maintained for a predetermined time;

dividing the display panel into at least one pixel column block when the display data are uniformly maintained for a predetermined time; and

20 sequentially performing screen save modes on the one pixel column block, the screen save modes simultaneously driving pixels belonging to each pixel column block in one type.

8. The method of claim 7, wherein the one type when performing the screen save modes is to turn on or off all pixels within each block.

5 9. The method of claim 7, further comprising the steps of:  
releasing the screen save modes when the display data are changed during the screen save modes; and  
displaying the display data only on the display panel.

10. A method for driving a display device having a display panel, the method comprising the steps of:

confirming whether display data applied to the display panel are uniformly maintained for a predetermined time;  
dividing the display panel into at least one pixel row block when the display data are uniformly maintained for a predetermined time; and

sequentially performing screen save modes on the one pixel row block, the screen save modes simultaneously driving pixels belonging to each pixel row block in one type.

20 11. The method of claim 10, further comprising the steps of:  
releasing the screen save modes when the display data are changed during the screen save modes; and  
displaying the display data only on the display panel.

12. The method of claim 10, wherein the one type when performing the screen save modes is to turn on or off all pixels within each block.

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13. A method for driving a display device having a display panel, the method comprising the steps of:

confirming whether display data applied to the display panel are uniformly maintained for a predetermined time;

dividing the display panel into at least one  $N_1 \times M_1$  ( $N_1$  and  $M_1$  are positive integers) pixel block when the display data are uniformly maintained for a predetermined time; and

sequentially performing screen save modes on the one  $N_1 \times M_1$  pixel block, the screen save modes simultaneously driving pixels belonging to each  $N_1 \times M_1$  pixel block in one type.

14. The method of claim 13, further comprising the steps of:

releasing the screen save modes when the display data are changed during the screen save modes; and

20 displaying the display data only on the display panel.

15. The method of claim 13, wherein the one type when performing the screen save modes is to turn on or off all pixels within each block.

16. The method of claim 13, wherein the  $N_1 \times M_1$  pixel block has a size of  $11 \times 12$  pixels or  $6 \times 12$  pixels.

17. A method for driving a display device having a display panel, the method comprising the steps of:

5 confirming whether display data applied to the display panel are uniformly maintained for a predetermined time;

dividing the display panel into at least one pixel block when the display data are uniformly maintained for a predetermined time; and

sequentially applying screen save mode data to the one pixel block, the screen save mode data being inverse data of data belonging to each pixel block of the display data.

18. The method of claim 17, wherein the block for the screen save modes is any one of a column block consisting of at least one pixel column, a row block consisting of at least one pixel row, and a pixel block consisting of  $N \times M$  ( $N, M$  is a positive integer) pixels.

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19. The method of claim 17, wherein the screen save mode data are to turn off pixels turned on according to the display data among pixels belonging to each pixel block and at the same

time to turn on pixels turned off according to the display data among the pixels belonging to each pixel block.

20. A display device comprising:

5 a display panel having a plurality of pixels arranged in a column unit;

a pixel column driving unit for driving the pixel columns;

a pixel row driving unit for driving the pixel rows; and

a control unit for driving the pixel column driving unit and the pixel row driving unit using a control signal to divide the pixels into a predetermined block unit and performing screen save modes of the display panel for the predetermined block unit.

21. The display device of claim 20, further comprising a memory for storing various types of the screen save modes.

22. The display device of claim 20, wherein the block for the screen save modes is any one of a column block consisting of at least one pixel column, a row block consisting of at least one pixel row, and a pixel block consisting of  $N_1 \times M_1$  ( $N_1$  and  $M_1$  are 20 positive integers) pixels.

23. The display device of claim 20, wherein the screen save modes are to turn on or off all pixels within each block.